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ABSTRACT

The issue of integrating technology into adult literacy programs would benefit greatly from the implementation of a curriculum deliberation process such as that suggested by Schwab (1973). Technology (computers in particular) presents the field with a range of questions from the philosophical to the educational to the practical. This provides both an opportune time and a compelling reason to establish a deliberative process. The inclusion of the "four commonplaces" suggested by Schwab--practitioners, learners, subject matter experts, and milieus--would ensure the development of coherent curricula. That is, it would ensure curricula that are meaningful and useful to a wide range of stakeholders. The key consideration in any deliberative process must be, however, the efficacy of computers in terms of educational outcomes. The benefits of a curriculum deliberation process in the field of adult literacy cannot be overstated. They include the rationalization of computers in literacy curriculum; representation by primary and peripheral stakeholders in curriculum development, implementation, and evaluation; development of coherent curriculum; sharing over time of "best practices" and "lessons learned" as computers are integrated into the curriculum; and collaboration in other areas of literacy such as advocacy. (Contains 23 references.) (YLB)

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INTEGRATING TECHNOLOGY INTO CANADIAN ADULT LITERACY PROGRAMS: THE NEED FOR A CURRICULUM DELIBERATION PROCESS

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Introduction

Whether or not to integrate computers into curriculum is currently the subject of some debate amongst educators in general (Amos, 1998; Bennett, 1996; Chandler, 1995; Postman, 1993; Robertson, 1998). For adult literacy practitioners in particular, the issue is an especially crucial one and for several reasons, not the least of which involves resource concerns. This paper discusses various factors surrounding this issue and identifies the need for a curriculum deliberation process in the field of adult literacy.

Background

The use of computers to support programs administratively is not so much the issue, as is their incorporation into teaching and learning (Amos, 1998; Ginsburg, 1999; Hopey, 1998; Hopey, Harvey-Morgan & Rethemeyer, 1996; Sabatini & Ginsburg, 1999; Stites, 1999; Stites, Hopey & Ginsburg, 1998; Turner, 1999; Wagner & Hopey, 1998; Wilson, 1998). Practitioner concerns center around three main intertwined themes:

- The **practical** - the use of scarce resources to fund technology. One or two computers can be used to support a program administratively, but more are required for use in instruction. This comes with costs in terms of money, time and effort.
- The **philosophical** - the place of technology within literacy teaching and learning. Programs are stretched just teaching the basics -- reading, writing, spelling and numeracy. Layering technology on top of this will stretch scant resources to the limit. There is also the question of whether *computer* literacy is integral to any definition of being literacy in general.
- The **educational** - the effectiveness of technology with regard to literacy teaching and learning. Can computers actually be used to enhance learning? Are there aspects or features of computers that may diminish learning outcomes?

Many who disagree with the incorporation of technology do so for practical reasons. Since funding in the field of adult literacy is historically very limited, many believe that scarce resources must be directed at fundamental literacy skills; that is, reading, writing, spelling and more recently, numeracy. Those on the opposite side of this argument, however, argue that programs cannot afford NOT to become involved for the reason of what may be termed "technological determinism" (Chandler, 1995). This concept likens technology to a 'steamroller' and suggests that if one isn't driving the steamroller one is 'part of the pavement' so to speak. The result will be that the well acknowledged gap between those who are literate and those who are not will widen further, perhaps to the stage where the gulf is too far to bridge:

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> *It has been said occasionally that technology is "too expensive" given the particular dearth of funding in literacy work .... The reverse may be true: literacy work (and basic education more broadly) cannot afford to ignore the tremendous potential of the network technologies and distance education, otherwise that gap between the informationally rich and the informationally poor will continue to grow (Wagner & Hopey, 1998, p. 5).*

Discussions around this theme also tend to include the notion of access. For some, the cost of technology represents a major barrier to both programs and individual learners (Amos, 1998), while others suggest that cost must be weighed in terms of the benefits. One major benefit according to these educators is that technology will actually increase access and allow the field to reach far more students than ever before (Garner, Dilloway & Whiten, 1999; Meyer; 1999).

A second theme regards the place of technology within teaching and learning, and questions about the nature of being literate. Ginsburg (1999), for example, proposes that because technology is inextricably integrated into society already, the field of literacy must necessarily adapt. "We all acknowledge that the information age has had a profound impact on the world around us; thus it is not unreasonable to posit that the information age should also affect the form and function of adult education." Those on the opposite side of this argument propose that technology is not inevitable unless we allow it to be, and that educators should not get caught up in thinking they *must* incorporate technology in order to be effective, relevant, etc (Postman, 1993; Robertson, 1998).

A third theme regards the efficacy of technology regarding educational outcomes. As Hopey (1998) writes, "The hard questions have less to do with the quantity and availability of technology than with the quality and effectiveness of technology use" (p. 4) Many believe that technology represents a panacea or 'magic bullet' for literacy. Bennett (1996), for example, suggests, "Wherever illiteracy is a problem, it could be eliminated" (p. 1). Educators such as Robertson (1998) regard this as "misplaced enthusiasm for techniques and technologies that promise to transform education, " but which invariably are "revealed as duds" (p. 6).

Curriculum Deliberation

Hannay & Seller (1990) suggest that curriculum deliberation involves an organized effort "to look at what is, in order to examine what should be" (p. 241). That is, it is a review process in which curriculum is examined from a variety of points of view in order to determine its efficacy, and to develop recommendations for its improvement. As Walker (1978) writes, "The heart of the deliberative process is the justification of choices" (p. 272). Schwab (1973) offers a deliberative model in which includes a wide variety of 'stakeholders' such as learners, practitioners, subject matter 'experts' (e.g., scholars, practitioners), and something he terms the "relevant milieus" (e.g., the community, political bodies, funding agencies, cultural groups, etc). Schwab terms these the "four commonplaces." In addition to being inclusive, another strength of this model is that it emphasizes the need for a "curriculum specialist." The primary role of this specialist would be as a "countervailing force" to the four "commonplaces." That is, a mediator

whose mandate would be the reconciliation of divergent views/needs/wants into defensible curriculum.

In general, the curriculum specialist role is important to the success or lack thereof of any curriculum deliberation process from a human nature or group dynamics point of view. As Schwab suggests, "The usual developing behaviour of such curriculum groups operating without a representative of this fifth body of experience is one of resentful or resigned submission of three of the groups to a fourth" (p. 504). A good example of this very situation occurred in literacy in Ontario in the 1990's. Although curriculum control had historically been left to individual programs as in other provinces, a new government was brought into power and clawed back this control. Almost unilaterally this government shifted the focus of literacy curricula from a "transformational" (Miller & Seller, 1990) or humanistic and learner-centred orientation, to outcomes-based learning relating primarily to the employability of learners. Programs were obligated to de-emphasize dearly held humanistic values in favor of "utilitarian/practical criteria" (Miller & Seller, 1990). A deliberative process would not necessarily guarantee that those who hold ultimate control over programs would not override the other "commonplaces," even with the intervention of a specialist. However, the process would at least offer some opportunity for equal representation and (hopefully) fair discussion which, in the case of Ontario, might have prevented or offset the government's actions.

In terms of the field of adult literacy specifically, the curriculum specialist role is particularly important since trained, full-time practitioners are few and part-time volunteers with limited training are many. What training is available for practitioners/volunteers tends to relate to content-specific knowledge (i.e., numeracy, reading, writing, etc) versus curriculum development and teaching skills. An experienced curriculum specialist would offer guidance in these areas with the aim of developing coherent curriculum for the field.

Coherent Curriculum

The purpose of a deliberative process is not to *standardize* literacy curricula per se, but rather to ensure that curricula are "coherent." (Beane, 1995). The notion of "coherence" refers to relevance, usefulness, and quality as determined by a variety of "stakeholders" (Brandon, 1999). Coherent curriculum is curriculum that 'makes sense' to those involved with it, be they politicians, funders, learners, practitioners/volunteers, the larger community, etc. A deliberative process, properly conducted, would be inclusive and would capture and reflect such factors as regional differences in economics, politics, geography, etc., and individual differences such as gender, age, culture, etc.

Coherent curriculum also refers to the "repositioning [of] learning experiences into meaningful contexts" (Beane, 1995, p.8). That is, the more situated curriculum material is in learners' experience and the real world, the more effective learning will be. For example, Brown, Collins and Duguid (1993) describe the necessity for context in learning language:

> *Teaching from dictionaries assumes that definitions and exemplary sentences are self-contained "pieces" of knowledge. But words and sentences are not*

> *islands, entire unto themselves.... Experienced readers implicitly understand that words are situated. They, therefore, ask for the rest of the sentence or the context before committing themselves to an interpretation of a word. And then go to dictionaries with situated examples of usage in mind (p. 1).*

Of particular importance to coherent curriculum is also the inclusion of both "referent-" and "problem-centred" knowledge (Bereiter, 1992). Referent-centred knowledge refers to content-specific material such as the operational or computational aspects of mathematics. Problem-centred knowledge refers to the process of solving problems; that is, our strategies, our ability to communicate, to reason, and so on, mathematically. As Bereiter writes:

> *The development of problem-centred knowledge depends on problems that persist or recur so that they become the organizing point for knowledge. Problem solving as it typically appears in mathematics and science curricula is the antithesis of the kind of activity that could be expected to lead to problem-centred knowledge of high-level concepts. It consists of strings of problems that are forgotten as soon as the assignment is completed (1992, pp. 346-347).*

Coherent curriculum then, would emphasize both content *and* process. It has at its heart the application of knowledge to solving real world problems. This shift away from content-specific curriculum toward active and authentic learning that addresses both content and process is not an easy shift for many practitioners to make. A curriculum deliberation process with a curriculum specialist at the helm would ease this transition greatly.

Rationale

Although provincial education ministries and regional literacy agencies hold varying degrees of control, in general curriculum development is completed at the individual program level. As such, many programs expend a good proportion of their limited resources developing curricula "from the ground up" so to speak. The curricula developed may range from somewhat loose and haphazard, to well-thought out and defensible depending on the will, resources, expertise, etc., of each program. As such, the quality of literacy curricula varies greatly between provinces, regions and programs. This alone speaks to the need for an explicit and formal curriculum deliberation process. Adding technology to this mix only makes the need for such a process that much more critical. One of the major disadvantages of curriculum deliberation, however, is the amount of time and energy that must be devoted to the process. Adult literacy, more than other areas in the field of education, is extremely limited in terms of the resources it can expend in this direction. In addition, since provincial education ministries and regional literacy agencies tend to be more involved in administration and promotion of services than program curriculum, organization of any deliberative process is unlikely from either level. Add to this is the fact that practitioners and volunteers at the program level rarely have formal training in curriculum theory/practice and are working with extremely limited resources, and the absence of any deliberative process in the field is understandable.

Benefits

That said, the rapid and increasing integration of technology into all aspects of life in North American exerts a pressure that the field of adult literacy cannot ignore. It is an issue that is best addressed in a collaborative fashion. A deliberative process offers the best use of limited resources and promises rational debate regarding the place of computers in adult literacy curriculum. Beyond addressing practical and/or philosophical considerations, a deliberative process would necessarily assess the educational benefits of computers. Research data regarding the efficacy of technology in adult education are beginning to emerge (Hopey et al, 1996; Stites, 1999; Stites et al, 1998; Wilson & Javed, 1998), and it is crucial to turn to these at the outset, rather than formulate curricula around what Walker (1978) describes as "hunches" or "speculative hypotheses" (p. 278)

The benefits of a curriculum deliberation process in the field of adult literacy cannot be overstated. These include:

- The rationalization of computers in literacy curriculum
- Representation by primary and peripheral stakeholders in curriculum development, implementation, and evaluation
- The development of coherent curriculum
- The sharing over time of "best practices" and "lessons learned" as computers are integrated into curriculum
- Collaboration in other areas of literacy such as advocacy

Vision

How can a decentralized field with a varied and limited accreditation system put in place a deliberative process that will achieve coherent curriculum? By harnessing the very technology that is currently putting pressure on the field to establish just such a process. The relatively fast, inexpensive and effective communication ability of the computer makes collaboration in just such a process possible among practitioners at the national, provincial, regional or local level. Ideally a national effort would seem to offer the greatest potential for success. A nationally coordinated project could result in extensive curricula being developed relatively quickly and easily with the voluntary participation of many programs across Canada. Curriculum deliberation could be coordinated by a centralized team who would use the Internet to disseminate and collect information (e.g., e-mail, web site, and message boards). The resulting "cohesive" curricula could be placed online in a database for all to draw upon and "tweaked" or adjusted as necessary to fit the needs of individual provinces/regions/programs.

It is suggested that the National Literacy Secretariat (NLS) has the necessary resources (e.g., funds, full-time staff, ability to communicate nationally, etc), and indeed a mandate to spearhead such an effort. Although the NLS is a government agency and as such, has the potential to override other stakeholders, this would be balanced by the fact that

participation in the effort would be voluntary. Curricula would be made available to those who wish to use it rather than imposed on programs. And as Schwab (1973) would suggest, the involvement of a curriculum specialist/mediator would also go a long way toward ensuring balance in the deliberation process.

Conclusion

The issue of integrating technology into adult literacy programs would benefit greatly from the implementation of a curriculum deliberation process such as that suggested by Schwab (1973). Technology, computers in particular, presents the field with a range of questions from the philosophical to the educational to the practical. This presents both an opportune time and a compelling reason to establish a deliberative process. The inclusion of the "four commonplaces" suggested by Schwab – practitioners, learners, subject matter experts, and milieus – would ensure the development of coherent curricula; that is, curricula that is meaningful and useful to a wide range of stakeholders. The key consideration in any deliberative process, however, must be the efficacy of computers in terms of educational outcomes:

> *When used well, new and emerging information technologies can be powerful tools for expanding learning opportunities across the lifespan. The potential for technology to expand and improve learning by adults is especially great. To take advantage of technology's potential, adult educators, planners, and policymakers need to critically access the performance of the technology and the quality of learning that technology supports (Stites et al, 1998, p. 1).*

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